

- 1 1. A method of Automated Digital voice recorder to Personal information
2 manager Synchronization (ADPS), comprising:
3 receiving at least one voice file containing audio content and related
4 descriptive information from a digital voice recorder (DVR);
5 reading information in the voice file that associates audio content within
6 the voice file with a personal information manager (PIM) application; and
7 processing the voice file by transferring the voice file to at least one PIM
8 application.
9
10 2. The method of claim 1, further comprising processing the audio content
11 through at least one enhancement filter to create at least one of enhanced audio
12 and text content prior to transferring the voice file to a PIM application.
13
14 3. The method of claim 2, wherein the enhancement filter comprises at least
15 one of a transcription filter, an enhanced audio filter, and a transcoding filter.
16
17 4. The method of claim 1, further comprising:
18 reformatting the voice file to interface the voice file with a PIM application
19 thereby creating a reformatted voice file;
20 transferring the reformatted voice file to the PIM application.
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22 5. The method of claim 4, further comprising copying the reformatted voice
23 file to a DVR Dedicated Software Application (DSA).
24
25 6. The method of claim 5, further comprising sending a command to the DVR
26 instructing the DVR to delete the voice file from the DVR.
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1 7. The method of claim 5, further comprising creating a log entry to record
2 transferring the reformatted voice file to the PIM application and copying the
3 reformatted voice file to the DVR Dedicated Software Application (DSA).

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5 8. The method of claim 1, further comprising copying the voice file to a DVR
6 Dedicated Software Application (DSA).

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8 9. The method of claim 1, further comprising sending a command to the DVR
9 instructing the DVR to delete the voice file from the DVR.

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11 10. The method of claim 1, further comprising:
12 processing the audio content through at least one enhancement filter to
13 create at least one of enhanced audio content and text;
14 reformatting the voice file along with the at least one of enhanced audio
15 content and text to interface the voice file with a PIM application thereby creating
16 a reformatted voice file;
17 transferring the reformatted voice file to a PIM application;
18 copying the reformatted voice file to a DVR Dedicated Software
19 Application (DSA);
20 deleting the voice file from the DVR; and
21 creating a log entry to record transferring the reformatted voice file to the
22 PIM application and copying the reformatted voice file to the DVR Dedicated
23 Software Application (DSA).

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1 11. A computer readable medium storing instructions which, when executed
2 on a programmed processor, carry out a process of:

3 receiving at least one voice file containing audio content and related
4 information from a digital voice recorder (DVR);

5 reading information in the voice file that associates audio content within
6 the voice file with a personal information manager (PIM) application; and

7 processing the voice file by transferring the voice file to at least one PIM
8 application.

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10 12. The computer readable medium of claim 11, further storing instructions
11 which, when executed on a programmed processor, carry out a process of:

12 processing the audio content through at least one enhancement
13 filter to create enhanced audio content prior to transferring the voice file to a PIM
14 application.

15

16 13. The computer readable medium of claim 12, further storing instructions
17 which, when executed on a programmed processor, carry out a process of:

18 reformatting the voice file along with the enhanced audio content to
19 interface the voice file with a PIM application thereby creating a reformatted voice
20 file.

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22 14. The computer readable medium of claim 13, further storing instructions
23 which, when executed on a programmed processor, carry out a process of
24 transferring the reformatted voice file to a PIM application.

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1 15. The computer readable medium of claim 14, further storing instructions
2 which, when executed on a programmed processor, carry out a process of
3 copying the reformatted voice file to a DVR Dedicated Software Application
4 (DSA).

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6 16. The computer readable medium of claim 15, further storing instructions
7 which, when executed on a programmed processor, carry out a process of
8 sending a command to the DVR instructing the DVR to delete the voice file from
9 the DVR.

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11 17. The computer readable medium of claim 16, further creating a log entry to
12 record transferring the reformatted voice file to the PIM application and copying
13 the reformatted voice file to the DVR Dedicated Software Application (DSA).

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- 1 18. An apparatus for Automated Digital voice recorder to Personal information
2 manager Synchronization (ADPS), comprising:
3 an interface that receives at least one voice file containing audio content
4 and related information from a digital voice recorder (DVR);
5 a memory; and
6 a programmed processor that reads information in the voice file that
7 associates audio content within the voice file with a personal information
8 manager (PIM) application, that processes the voice file by transferring the voice
9 file to at least one PIM application.
10
- 11 19. The apparatus of claim 18, wherein the programmed processor further
12 stores the voice file in the memory.
13
- 14 20. The apparatus of claim 18, wherein the programmed processor processes
15 the audio content using at least one enhancement filter to create enhanced audio
16 content prior to transferring the voice file to a PIM application.
17
- 18 21. The apparatus of claim 20, wherein the enhancement filter comprises at
19 least one of a transcription filter, an enhanced audio filter, and a transcoding
20 filter.
21
- 22 22. The apparatus of claim 18, wherein the programmed processor:
23 reformats the voice file to interface the voice file with a PIM application to
24 create a reformatted voice file; and
25 transfers the reformatted voice file to the PIM application.
26
- 27 23. The apparatus of claim 22, wherein the programmed processor copies the
28 reformatted voice file to a DVR Dedicated Software Application (DSA).
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1 24. The apparatus of claim 23, wherein the programmed processor sends a
2 command to the DVR instructing the DVR to delete the voice file from the DVR.

3
4 25. The apparatus of claim 24, wherein the programmed processor creates a
5 log entry to record transferring the reformatted voice file to the PIM application
6 and copying the reformatted voice file to the DVR Dedicated Software Application
7 (DSA).

8
9 26. The apparatus of claim 18, wherein the programmed processor copies the
10 voice file to a DVR Dedicated Software Application (DSA).

11
12 27. The apparatus of claim 18, wherein the programmed processor sends a
13 command to the DVR instructing the DVR to delete the voice file from the DVR.

14
15 28. The apparatus of claim 18, wherein the programmed processor creates a
16 log entry to record transferring the voice file to the at least one PIM application.

1 29. The apparatus of claim 18, wherein the programmed processor:
2 stores the voice file in the memory;
3 processes the audio content through at least one enhancement
4 filter to create enhanced audio content;
5 reformats the voice file along with the enhanced audio content to interface
6 the voice file with a PIM application to create a reformatted voice file;
7 transfers the reformatted voice file to a PIM application;
8 copies the reformatted voice file to a DVR Dedicated Software Application
9 (DSA);
10 sends a command to the DVR instructing the DVR to delete the voice file
11 from the DVR; and
12 creates a log entry to record transferring the reformatted voice file to the
13 PIM application and copying the reformatted voice file to the DVR Dedicated
14 Software Application (DSA).
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- 1 30. A method of Automated Digital voice recorder to Personal information
2 manager Synchronization (ADPS), comprising:
3 retrieving at least one voice file from a Personal Information Manager
4 (PIM) application wherein the voice file contains data plus information relating the
5 data to the PIM;
6 if the data comprises text, processing the text by transforming the text to
7 speech format; and
8 processing the voice file by transferring the voice file to a Digital Voice
9 Recorder (DVR).
10
- 11 31. The method of claim 30, transforming the text to speech format by
12 processing the text using a text-to-speech filter.
13
- 14 32. The method of claim 30, further comprising:
15 if the data comprises speech, determining if the data encoding complies
16 with a format used on the DVR; and
17 converting the data to the format used on the DVR if the data is not
18 encoded in the format used on the DVR prior to transferring the voice file to the
19 DVR.
20
- 21 33. The method of claim 32, wherein converting the data comprises:
22 processing the audio content through at least one filter to reformat the
23 audio content to comply with a format used on the DVR and to create a
24 reformatted audio content; and
25 replacing the audio content in the voice file with the reformatted audio
26 content prior to transferring the voice file to the DVR.
27
- 28 34. The method of claim 33, wherein the filter comprises a transcoder filter.

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2 35. The method of claim 30 further comprising determining whether the voice
3 file will fit in available memory on the DVR prior to transferring the voice file to the
4 DVR.

5

6 36. The method of claim 35 further comprising:
7 transcoding the audio content of the voice file to a lower bit rate to allow it
8 to fit in the available memory on the DVR to create a transcoded audio content
9 prior to transferring the voice file to the DVR; and
10 replacing the audio content in the voice file with the transcoded audio
11 content prior to transferring the voice file to the DVR.

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13 37. The method of claim 30, further comprising copying the voice file to a DVR
14 Dedicated Software Application (DSA).

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16 38. The method of claim 37, further comprising deleting the voice file from the
17 PIM.

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1 40. The method of claim 32, further comprising prior to transferring the voice
2 file to the DVR:
3 determining whether the data encoding complies with a format used on
4 the DVR;
5 processing the audio content through at least one filter to reformat the
6 audio content to comply with a format used on the DVR;
7 determining whether the voice file will fit in available memory on the DVR;
8 transcoding the audio content of the voice file to a lower bit rate to allow it
9 to fit in the available memory on the DVR;
10 copying the voice file to a DVR Dedicated Software Application (DSA);
11 and
12 deleting the voice file from the PIM.
13
14 41. A computer readable medium storing instructions which, when executed
15 on a programmed processor, carry out the process of:
16 receiving at least one voice file from a Personal Information Manager
17 (PIM) application wherein the voice file contains audio content plus information
18 relating the audio content to the PIM; and
19 processing the voice file by transferring the voice file to a Digital Voice
20 Recorder (DVR).
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1 42. The computer readable medium of claim 41, further storing instructions
2 which, when executed on a programmed processor, carry out a process of
3 determining whether the audio content encoding within the voice file
4 complies with a format used on a DVR prior to transferring the voice file to the
5 DVR; and

6 if the encoding of the audio content does not comply with a format used on
7 the DVR:

8 processing the audio content through at least one filter to reformat
9 the audio content to comply with a format used on the DVR and to create a
10 reformatted audio content; and

11 replacing the audio content in the voice file with the reformatted
12 audio content prior to transferring the voice file to the DVR.

13

14 43. The computer readable medium of claim 42, wherein the filter comprises
15 at least one of a transcoder filter and a text-to-speech filter.

16

17 44. The computer readable medium of claim 41, further storing instructions
18 which, when executed on a programmed processor, carry out a process of
19 determining whether the voice file will fit in available memory on the DVR
20 prior to transferring the voice file to the DVR; and

21 if the voice file will not fit in available memory on the DVR:

22 transcoding the audio content of the voice file to a lower bit rate to
23 allow it to fit in the available memory on the DVR and to create a transcoded
24 audio content; and

25 replacing the audio content in the voice file with the transcoded
26 audio content prior to transferring the voice file to the DVR.

27

1 45. The computer readable medium of claim 41, further storing instructions
2 which, when executed on a programmed processor, carry out a process of
3 copying the voice file to a DVR Dedicated Software Application (DSA).

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5 46. The computer readable medium of claim 45, further storing instructions
6 which, when executed on a programmed processor, carry out a process of
7 deleting the voice file from the PIM.

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1 47. An apparatus for Automated Digital voice recorder to Personal information
2 manager Synchronization (ADPS), comprising:

3 an interface that enables file transfer to a Digital Voice Recorder (DVR);
4 and

5 a programmed processor that transfers at least one voice file containing
6 audio content and related information from a Personal Information Manager
7 (PIM) application across the interface to the DVR.

8
9 48. The apparatus of claim 47, wherein the programmed processor further:

10 determines whether encoding of the audio content within the voice file
11 complies with a format used on the DVR prior to transferring the voice file to the
12 DVR; and

13 if the encoding of the audio content does not comply with a format used on
14 the DVR:

15 processes the audio content through at least one filter to reformat
16 the audio content to comply with a format used on the DVR and to create a
17 reformatted audio content; and

18 replaces the audio content in the voice file with the reformatted
19 audio content prior to transferring the voice file to the DVR.

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21 49. The apparatus of claim 48, wherein the filter comprises at least one of a
22 transcoder filter and a text-to-speech filter.

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1 50. The apparatus of claim 47, wherein the programmed processor further:
2 determines whether the voice file will fit in available memory on the DVR
3 prior to transferring the voice file to the DVR; and
4 if the voice file will not fit in available memory on the DVR:
5 transcodes the audio content of the voice file to a lower bit rate
6 to allow it to fit in the available memory on the DVR to create a transcoded audio
7 content; and
8 replaces the audio content in the voice file with the transcoded
9 audio content prior to transferring the voice file to the DVR.

10

11 51. The apparatus of claim 47, wherein the programmed processor further
12 copies the voice file to a DVR Dedicated Software Application (DSA).

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14 52. The apparatus of claim 51, wherein the programmed processor further
15 deletes the voice file from the PIM.

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1 53. A method of Automated Digital voice recorder to Personal information
2 manager Synchronization (ADPS) message creation comprising:
3 receiving a signal from a user interface that an ADPS message is to be
4 created;
5 receiving an ADPS type selection relating the ADPS message to be
6 created to a type of Personal Information Manager (PIM) application;
7 receiving a start command signal from the user interface to begin
8 recording audio content for the ADPS message to be created;
9 receiving a stop command signal from the user interface to stop recording
10 the audio content for the ADPS message to be created; and
11 creating an ADPS message by organizing the ADPS type selection and
12 the audio content into the ADPS message.

13

14 54. The method of claim 53, further comprising receiving information related to
15 the ADPS type selection.

16

17 55. The method of claim 54, wherein the type of PIM application comprises
18 one of an email PIM application, a schedule PIM application, and a task manager
19 PIM application, a time management PIM application, a responsibility tracking
20 PIM application, an address management PIM application, a to-do list PIM
21 application, and a calendar PIM application.

22

23 56. The method of claim 55, wherein an order of presenting the application
24 type to a user is varied according to a command that reorders the list of PIM
25 applications.

26

27 57. The method of claim 55, wherein a list of possible addressees for an
28 ADPS message is received.

29

1 58. The method of claim 57, wherein if the type of PIM application is the email
2 PIM application, a user is presented with the list of possible addressees to
3 receive the email and can select at least one of the addressees as part of the
4 information related to the ADPS type selection.
5

6 59. The method of claim 54 wherein the information related to the ADPS type
7 selection comprises at least one of a date for an event, a time for the event, a
8 date for the event to start, a date for the event to stop, a time for the event to
9 start, a time for the event to stop, a priority for the event, and an addressee for
10 the ADPS message.
11

12 60. The method of claim 54, further comprising organizing the information
13 related to the ADPS type selection with the ADPS type selection and the audio
14 content to create an ADPS message.
15

16 61. The method of claim 53, wherein creating the ADPS message comprises:
17 storing the ADPS type selection to form an ADPS header; and
18 storing the audio content with the ADPS header to form the ADPS
19 message.
20

21 62. The method of claim 54, wherein creating the ADPS message comprises:
22 storing an indicating of an ADPS message;
23 storing the ADPS type selection;
24 storing the information related to the ADPS type selection with the
25 indication of the ADPS message and the ADPS type selection to form an ADPS
26 header; and
27 storing the audio content with the ADPS header to form the ADPS
28 message.

1 63. The method of claim 54, wherein creating the ADPS message comprises:
2 storing the ADPS type selection;
3 storing the information related to the ADPS type selection with the ADPS
4 type selection to form an ADPS header; and
5 storing the audio content with the ADPS header to form the ADPS
6 message.

7

8 64. The method of claim 53, further comprising receiving a computer identifier
9 selection to identify a computer to synchronize with.

10

11 65. The method of claim 64, wherein the computer identifier selection
12 comprises at least one of a business computer and a personal computer.

13

14 66. The method of claim 53, wherein a list of possible computers to
15 synchronize with is received.

16

17 67. The method of claim 66, wherein a user is presented with the list of
18 possible computers to synchronize with and can select at least one of the
19 computers as the computer to synchronize with.

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1 68. A computer readable medium storing instructions which, when executed
2 on a programmed processor, carry out the process of:
3 receiving a signal from a user interface that an ADPS message is to be
4 created;
5 receiving an ADPS type selection relating the ADPS message to be
6 created to a type of Personal Information Manager (PIM) application;
7 receiving a start command signal from the user interface to begin
8 recording audio content for the ADPS message to be created;
9 receiving a stop command signal from the user interface to stop recording
10 the audio content for the ADPS message to be created; and
11 creating an ADPS message by organizing the ADPS type selection and
12 the audio content into the ADPS message.
13
14

1 69. An apparatus for Automated Digital voice recorder to Personal information
2 manager Synchronization (ADPS) message creation comprising:
3 a microphone;
4 an analog to digital converter that converts analog microphone input
5 signals to audio content in a digital format;
6 a memory;
7 a user interface; and
8 a programmed processor that receives an indication that an ADPS
9 message is to be created, an ADPS type selection relating the ADPS message to
10 be created to a type of Personal Information Manager (PIM) application, a start
11 signal to begin recording audio content for the ADPS message to be created, and
12 a stop signal to stop recording the audio content for the ADPS message to be
13 created from the user interface; and that creates an ADPS message by
14 organizing the ADPS type selection and the audio content into the ADPS
15 message and storing the ADPS message in the memory.
16
17 70. The apparatus of claim 69, wherein the type of PIM application comprises
18 one of an email PIM application, a schedule PIM application, and a task manager
19 PIM application, a time management PIM application, a responsibility tracking
20 PIM application, an address management PIM application, a to-do list PIM
21 application, and a calendar PIM application.
22
23 71. The apparatus of claim 69, wherein the programmed processor further
24 receives information related to the ADPS type selection.
25
26

1 72. The apparatus of claim 71 wherein the information related to the ADPS
2 type selection comprises at least one of a date for an event, and a time for the
3 event, a date for the event to start, a date for the event to stop, a time for the
4 event to start, a time for the event to stop, a priority for the event, and an
5 addressee for the ADPS message.

6

7 73. The apparatus of claim 71, wherein the programmed processor further
8 organizes the information related to the ADPS type selection with the ADPS type
9 selection and the audio content to create an ADPS message.

10

11 74. The apparatus of claim 69, wherein to create the ADPS message, the
12 programmed processor further:

13 stores the ADPS type selection in the memory to form an ADPS header;
14 and

15 stores the audio content with the ADPS header in the memory to form the
16 ADPS message.

17

18 75. The apparatus of claim 71, wherein to create the ADPS message, the
19 programmed processor further:

20 stores the indicating of the ADPS message received from the user
21 interface in the memory;

22 stores the ADPS type selection in the memory;

23 stores the information related to the ADPS type selection with the
24 indication of the ADPS message and the ADPS type selection in the memory to
25 form an ADPS header; and

26 stores the audio content with the ADPS header in the memory to form the
27 ADPS message.

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1 76. The apparatus of claim 71, wherein to create the ADPS message, the
2 programmed processor further:

3 stores the ADPS type selection in the memory;

4 stores the information related to the ADPS type selection with the ADPS
5 type selection in the memory to form an ADPS header; and

6 stores the audio content with the ADPS header in the memory to form the
7 ADPS message.

8

9 77. The apparatus of claim 69, wherein the analog to digital converter further
10 converts spoken commands into a digital format as part of the user interface and
11 wherein the apparatus further comprises a voice recognition unit that can
12 interpret the spoken commands and generate the indications, selections, and
13 signals received by the programmed processor during ADPS message creation.

14

15 78. The apparatus of claim 71, wherein the analog to digital converter further
16 converts spoken commands into a digital format as part of the user interface and
17 wherein the apparatus further comprises a voice recognition unit that can
18 interpret the spoken commands and generate the indications, selections, signals,
19 and information related to the ADPS type selection received by the programmed
20 processor during ADPS message creation.

21

22 79. The apparatus of claim 69, wherein the programmed processor receives a
23 computer identifier selection to identify a computer to synchronize with.

24

25 80. The apparatus of claim 79, wherein the computer identifier selection
26 comprises at least one of a business computer and a personal computer.

27

1 81. The apparatus of claim 69, wherein the programmed processor receives a
2 list of possible computers to synchronize with.

3

4 82. The apparatus of claim 81, wherein a user is presented with the list of
5 possible computers to synchronize with and can select at least one of the
6 computers as the computer to synchronize with.

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1 83. A computer data signal embodied in a bit stream communicated between
2 a Digital Voice Recorder (DVR) and a host computer, comprising:
3 a segment of data representing a digital voice message; and
4 a header containing information that defines an association between the
5 digital voice message and a personal information manager (PIM).
6

7 84. The computer data signal according to claim 83, wherein the header
8 contains a message type field that determines if the digital voice message is an
9 ADPS (Automated Digital voice recorder to Personal information manager
10 Synchronization) message or a non-ADPS message, wherein ADPS messages
11 have an association with a PIM program.
12

13 85. The computer data signal according to claim 84, wherein, if the digital voice
14 message is designated as an ADPS message, the header contains an ADPS
15 type field that defines a specific PIM program associated with the digital voice
16 message.
17

18 86. The computer data signal according to claim 85, wherein the specific PIM
19 program comprises at least one of an email program, a schedule program, a task
20 manager program, time management, responsibility tracking, address
21 management, to-do list, and a calendar program.
22

23 87. The computer data signal according to claim 85, further comprising at least
24 one parameter field containing parameters associated with the specific PIM
25 program.
26

1 88. The computer data signal according to claim 83, wherein the header
2 contains a log field that identifies logged events associated with the digital voice
3 message.
4

1 89. The computer data signal according to claim 83, wherein the data signal is
2 carried from the DVR to the host over a communication interface.

3

4 90. The computer data signal according to claim 89, wherein the
5 communication interface comprises one of a universal serial bus (USB) interface,
6 a serial interface, a parallel interface, an IEEE-1394 compliant interface, an
7 infrared interface, an Ethernet interface, and a wireless interface.

8

9 91. The computer data signal according to claim 83, wherein information
10 representing the data signal resides on a computer readable storage medium.

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1 92. An apparatus for Automated Digital voice recorder to Personal information
2 manager Synchronization (ADPS), comprising:
3 means for receiving at least one voice file containing audio content and
4 related information from a digital voice recorder (DVR);
5 means for reading information in the voice file that associates audio
6 content within the voice file with a personal information manager (PIM)
7 application; and
8 means for processing the voice file by transferring the voice file to at least
9 one PIM application.
10
11 93. The apparatus of claim 92, further comprising means for storing the voice
12 file in a memory.
13
14 94. The apparatus of claim 92, further comprising means for processing the
15 audio content using at least one enhancement filter to create enhanced audio
16 content prior to transferring the voice file to a PIM application and wherein the
17 enhancement filter comprises at least one of a transcription filter, an enhanced
18 audio filter, and a transcoding filter.
19
20 95. The apparatus of claim 92, further comprising means for creating a log
21 entry to record transferring the voice file to the PIM application.
22
23
24

1 96. An apparatus for Automated Digital voice recorder to Personal information
2 manager Synchronization (ADPS) message creation comprising:
3 means for receiving an analog audio signal;
4 means for converting the analog audio signal into audio content in a digital
5 format;
6 means for receiving an indication that an ADPS message is to be created;
7 means for receiving an ADPS type selection relating the ADPS message
8 to be created to a type of Personal Information Manager (PIM) application;
9 means for receiving a start signal to begin recording audio content for the
10 ADPS message to be created;
11 means for receiving a stop signal to stop recording the audio content for
12 the ADPS message to be created; and
13 means for creating an ADPS message by organizing the ADPS type
14 selection and the audio content into the ADPS message and storing the ADPS
15 message in a memory.

16
17 97. The apparatus of claim 96, wherein the type of PIM application comprises
18 one of an email PIM application, a schedule PIM application, and a task manager
19 PIM application, a time management PIM application, a responsibility tracking
20 PIM application, an address management PIM application, a to-do list PIM
21 application, and a calendar PIM application.

22
23 98. The apparatus of claim 96, wherein the programmed processor further
24 receives information related to the ADPS type selection and wherein the
25 information related to the ADPS type selection comprises at least one of a date
26 for an event, and a time for the event, a date for the event to start, a date for the
27 event to stop, a time for the event to start, a time for the event to stop, a priority
28 for the event, and an addressee for the ADPS message.

29

1 99. The apparatus of claim 96, further comprising means for voice recognition
2 that can interpret spoken commands and generate the indications, selections,
3 and signals during ADPS message creation.

4

5 100. The apparatus of claim 96, further comprising means for voice recognition
6 that can interpret spoken commands and generate the indications, selections,
7 signals, and information related to the ADPS type selection received during
8 ADPS message creation.

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11